


The Cost of Convenience: An Experiment Showing E-Mail Outreach Decreases Voter Registration

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Abstract

Lower transaction costs have shifted voter registration activities online and away from traditional modes of outreach. Downloading forms may impose higher transaction costs than traditional outreach for some people and thereby decrease electoral participation. A randomized, controlled experiment tested this hypothesis by encouraging treatment participants via e-mail to use online voter registration tools. The treatment group was 0.3 percentage points less likely to be registered to vote after the election. A follow-up experiment sent reminders via text message to randomly selected people who had downloaded registration forms. The treatment increased rates of registration by 4 percentage points, suggesting that reminders can ameliorate many of the negative effects of directing people to downloadable online registration forms.

Keywords

voter registration, e-mail, online, mobilization, civic participation, experiment, procrastination

Despite the easing of voter registration laws since the passage of the Voting Rights Act in 1965, voter registration remains a bureaucratic hurdle to participating in elections. Traditionally in most states,¹ to participate in an election a person must track down a voter registration form in a government office or come into contact with an organization conducting a voter registration drive. Once obtained, the form can typically be returned immediately to the same office or volunteer that provided the registration form. Voter registration forms that can be downloaded from the Internet sidestep the logistical problem of obtaining the form, but they can isolate the individual and place the responsibility of returning the form to county officials solely on the shoulders of the voter. In effect, online forms exchange a logistical cost (e.g., locating the form) for a psychic cost (e.g., remembering to turn in the form).

The use of online registration forms is becoming increasingly common. In 2008, Rock the Vote alone had 2.6 million individuals fill out and download registration forms (Rock the Vote 2009) and roughly 76 percent of the people downloading the forms were registered to vote on Election Day. Whether the logistical benefits of online registration outweigh the costs is an important question. This article reports the results of a field experiment where this shift in costs resulted in a decrease in voter registration rates.

Voter registration is a necessary step to electoral participation. Among people registered to vote, roughly 90 percent vote in presidential elections and 75 percent vote in midterm elections. Just over 60 percent of nonvoters in the United States are eligible citizens who are not registered to vote. Many of these unregistered persons would not vote if given the opportunity, but the bureaucratic burden surely prevents some people from voting (Verba, Scholzman, and Brady 2004). As a result, Hanmer (2009) estimates that overall rates of voter turnout would be 3 to 8 percentage points higher were registration requirements abolished. This logic impels civic organizations, political campaigns, and government agencies to conduct registration drives to increase rates of registration.

Recently the efficacy of mobilization campaigns has been studied experimentally by political scientists (e.g., Gerber and Green 2000; Alvarez, Hopkins, and

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Sinclair 2010; Michelson, Bedolla, and McConnell 2009; Arceneaux and Kolodny 2009), but such work always focuses on voter turnout among those registered rather than examining how to register eligible citizens. Another interesting aspect of these studies of turnout is the general assumption that voter outreach can only mobilize and never demobilize.² This unidirectional assumption may be unproblematic for turnout in elections where voters must vote by showing up at the polls, but may not apply to registration where an individual has multiple avenues of registration, each with their own costs.³

A previously published experiment concerning voter registration found the experimental intervention (e-mail messages) to decrease rates of voter registration (Nickerson 2007a),⁴ where the results nearly crossed the traditional 0.05 threshold for statistical significance but were dismissed by the author:

Psychological mechanisms by which e-mail deterred registration could be hypothesized, but most would strain credulity. If e-mails were truly demobilizing, then campaigns should send e-mail to the supporters of opponents in order to decrease registration rates. That such a strategy would be ridiculed affirms the implausibility of the demobilization interpretation of the data. The evidence does not permit confidently rejecting the null hypothesis of no effect. (Nickerson 2007a, 377)

However, this result could be caused by treatment participants intending to mail county clerks downloaded registration forms and then bypassing alternative opportunities to register. That is, knowledge of available downloadable registration forms may induce procrastination. If the participant then fails to submit the form, then directing traffic to the online tool may have actually prevented him or her from registering to vote.

To test this hypothesis, a large field experiment involving 259,130 participants was conducted during 2006 federal midterm elections to determine whether online tools can be used to increase rates of voter registration. The participants were students drawn from twenty-six public universities where administrators agreed to participate in the experiment. Since access to Web sites like Rock the Vote cannot be randomized, participants were randomly assigned to receive e-mails encouraging voter registration and linking to the Rock the Vote or Secretary of State registration tools. After the registration deadline, students in the treatment and control groups at each campus were matched against a national voter file using both the home and school address of each student. We find that e-mails from peer leaders (e.g., student government presidents)

decrease rates of registration by 0.5 percentage points, while e-mails from university administrators have essentially no effect on registration (−0.1 percentage points). Combined with the results from previous experiments, these experiments lead to the conclusion that e-mail directing people to online registration tools slightly decrease overall rates of voter registration.

To verify that procrastination (i.e., failing to remember or otherwise follow through on submitting complete registration forms) was a contributing factor in this decrease in turnout, a follow-up experiment was conducted during the 2008 primaries by Rock the Vote. People who had downloaded registration forms, had opted to receive text messages from Rock the Vote, and did not yet appear on the state list of registered voters were randomly assigned to receive a reminder to return the form or to a control group that received no further contact from Rock the Vote until after the registration deadline. These text message reminders increased rates of voter registration by 4 percentage points. This result suggests that online registration drives can be effective when coupled with active follow-up.

The article begins by describing the literature on Internet campaigning and explaining our theory of competing costs to voter registration. A set of experiments studying the effectiveness of e-mail-based registration appeals is then described, followed by a discussion of the results. A follow-up experiment designed to see whether simple reminders can correct the detected drop-off in registration is then presented. The article concludes by discussing the generalizability of the findings and drawing two specific policy implications.

Shifting Costs of Voting

Much of the literature on the Internet and political mobilization has focused on the type of information made available to voters (e.g., Druckman, Kifer, and Parkin 2009; Druckman et al. 2010). Less attention has been paid to how moving traditional campaign tactics online alters the transaction costs involved in political participation. The effects of online transactions have been studied extensively by economists, who generally conclude that “the Internet can be conceptualized as a giant machine for reducing transaction costs” (Kenney and Curry 2001). The Internet reduces costs by connecting buyers and sellers without requiring physical presence, facilitating access to information and research, and eliminating the need for paper and transcription, thereby avoiding errors and delay, reducing communication time, and allowing for monitoring of transactions, delivery, and inventory (Lucking-Reiley and Spulber 2001). For example, Lehman Brothers reports that a transaction that costs \$1.27 with

a teller costs \$0.01 online (“Internet Economics: A Thinker’s Guide,” 2000). Given the huge savings enjoyed by producers and consumers, the nearly exclusive focus on the reductions in cost is understandable.

Political campaigns have embraced the power of the Internet to lessen the expense of communicating with voters. During the 2008 election, 3 million donors made 6.5 million donations online for a total of more than \$500 million in contributions to the Obama campaign. As a part of his communication strategy, Barack Obama sent over 1 billion e-mails over the course of the campaign to his list of 13 million supporters (Vargas 2008). Even at the cheapest nonprofit bulk mail rates for postcards, mailing 1 billion postcards would cost a campaign at least \$140 million (\$0.02 per postcard + \$0.12 for postage). Communicating with supporters and voters via e-mail is much cheaper than traditional modes of contact, and for that reason campaigns have embraced e-mail and Web sites.

Unfortunately, the savings in communication introduced by Web sites and e-mail do not necessarily make such technologies effective campaign tools. Powerful anecdotal evidence suggests that e-mail can be an effective tool for activities that involve coordinating activists, such as campaign donations or rally attendance, but online communication tools exhibit two chief drawbacks for mass mobilization. First, social norms against sending unsolicited e-mail and the passive nature of Web sites (i.e., viewers need to seek out the Web site) limit the online campaign exposure to politically interested persons and supporters (Norris 2003; Krueger 2006).⁵ While a campaign can engage and organize supporters very efficiently online, the vast majority of people casting a ballot will have no exposure to the online arm of a candidate’s campaign. The second drawback is that e-mail outreach is easy to ignore and has not been effective at increasing voter turnout. While the success of tactics such as door-to-door canvassing (Gerber and Green 2000; Green, Gerber, and Nickerson 2003), text messages (Dale and Strauss 2009), street signs (Panagopoulos 2009), and phone calls (Nickerson 2006, 2007b) are well established, e-mail was found to be completely ineffective at mobilizing voters in the only large-scale experiment testing the tactic (Nickerson 2007a). Thus, even if the marginal cost of each e-mail sent by a campaign is very low, it is unlikely to either reach a persuadable audience or move the audience even when the e-mail is opened by the recipients. Campaigns understand this logic but argue that as long as Internet outreach does not harm the campaign, it is essentially costless to engage in such activities.

Voter registration may be one of the activities where shifting people from traditional in-person tactics may introduce new costs and decrease participation. In traditional

methods of voter registration, a person seeks or is presented with a voter registration form by a campaign volunteer or clerk at a government office. Presented with the cue to register, the cue may then be acted on, and the registration card is immediately accepted by the person facilitating the registration transaction. The temporal distance between social cue to register and the completion of the task is extremely short in most instances. The process is not as simple online in most states. The person is cued to go to the portal, fill out the registration form, download the form, print it, sign it, and mail it in. A process that began on the Web does not end on the Web. Regardless of whether the invitation to register triggers social pressure or makes an existing norm more salient, the large number of steps can cause the strength of the cue to dissipate. Since the actions take place in front of a computer screen rather than in person, there is little capacity to reinforce and monitor follow-through on the behavior. Thus, online registration tactics are likely to be much less effective than traditional registration methods.

Why would directing people to online forms decrease registration rates? There are multiple methods of registering to vote. If a person downloads a form and fails to mail it in but bypassed alternative means of registration in the interim, then it is possible that the online campaign prevented a person from registering. Procrastination is a likely psychological mechanism for this process. A person may put off completing a task if he or she knows that the task can be completed later (Solomon and Rothblum 1984; Lay 1986), and such delays can even be rational under certain conditions (Akerlof 1991; O’Donoghue and Rabin 2001; Tykocinski and Ruffle 2003).

To illustrate this logic for voter registration, suppose a student receives an e-mail notifying her that the registration deadline is two weeks away and encouraging her to complete the online voter registration form. She passes by registration tables in the hallway but fails to stop, reasoning that she is too busy to stop before class and will make time to register online when she is less rushed. This scenario involves a counterfactual (i.e., a person’s baseline rate of registration in the absence of downloading the form) that would normally be difficult to estimate. The randomized experiment described in the next section actively constructs this baseline.

The Experimental Approach

While voter registration is critical to electoral participation in the United States, it is a very difficult process to study. Politically engaged people choose to register themselves, and the disengaged never bother. This process creates a powerful sorting effect where people who want to participate in politics are generally registered and the

people who are disinclined to participate are less likely to be registered (Erikson 1981). Thus, observational studies relying on individual-level data need to model the selection process (Timpone 1998). Unfortunately, the assumptions underlying these two-stage models are unverifiable, and one can never be certain model choice does not drive the results.

When feasible, experiments offer a solution to selection effects by randomly assigning the treatment of interest. Experiments generally require a well-defined participant population that can be tracked, a treatment that can be randomized and administered to the correct person, and the ability to measure the outcome of interest for both the treatment and control groups. Voter mobilization experiments fit these requirements by focusing on registered voters, of whom there is an official list that can be randomized and later updated with turnout. Unfortunately, an official list of unregistered persons does not exist. Even if such a list did exist, residential mobility is much higher among unregistered persons and the reliability of such a list would be suspect.

Conducting the experiments on college campuses solves the problem with defining a participant population. Working with university administrators, student directories were used to define and randomize the participant population. The student directory has several notable advantages for the purposes of studying voter registration. First, the addresses should be accurate because students registered for classes (and paid tuition) only a month prior to the experiment, and the administration needs to mail grades and future bills. Second, where applicable, schools provided both home and local/school addresses. Since young people often maintain addresses with parents, having both addresses allows participants to be tracked more accurately. Third, 84 percent of the schools in the experiment provided date of birth to facilitate an accurate match in the voter file—even if the address happened to be out of date. Fourth, the directory also contained accurate e-mail addresses, which allowed for the administration of the treatment. Finally, the directory defined the list of every participant in the experiment.

College students are an interesting population to study with regard to voter registration for four reasons. First, college students are geographically mobile and are extremely likely to have moved in the recent past, necessitating re-registration (Squire, Wolfinger, and Glass 1987). This mobility can also remove students from social support networks (like parents) who can help students engage civically. Second, college students are young and less likely to have developed a habit of voting (Plutzer 2002; Bendor, Diermeier, and Ting 2003; Green, Green, and Shachar 2003; Fowler 2006). The flipside of habit formation is that gains in participation at a young age will

translate into greater participation in the future. Third, college students fall into many of the demographic categories associated with low levels of electoral participation: young (Wolfinger and Rosenstone 1980), disinterested in politics (Verba, Schlozman, and Brady 1995), and news nonconsumers (Wattenberg 2007). Finally, the federal government has mandated that colleges and universities make an effort to register students. A 1998 amendment to the Higher Education Act requires colleges and universities to distribute voter registration forms to students enrolled in all degree or certificate programs. Institutions that fail to comply with the provision could jeopardize their federal student aid funds. Thus, college students present an empirically, pragmatically, and normatively interesting population to study with regard to registration habits.

College students are an especially interesting population to study with regard to e-mail and online registration tactics because they are more reliant on and frequent users of e-mail and the Internet relative to other age cohorts (Tedesco 2006). E-mail has not been found to be effective at boosting voter turnout (Nickerson 2007a), but college students should be the population most responsive to e-mail and Internet appeals. If e-mail messages encouraging registration and driving traffic to Web-based registration tools will work for any population, it would be college students.

Campuses were recruited by the American Association of State Colleges and Universities (AASCU) and its American Democracy Project (ADP) through e-mail solicitations to member campuses. Upper-level administrators agreed in principle to participate in the experiments and generally appointed someone as chief contact and coordinator for the experiments.⁶ This coordinator was paid a small stipend, which most used to hire a student assistant. Researchers followed up with all campus contacts by e-mail and telephone, answering questions, confirming participation, completing institutional review board (IRB) forms, and mapping out campus registration plans. Each coordinator participated in a five-hour training session at the national ADP meeting in Utah. Coordinators who were unable to attend the training session participated in scheduled make-up sessions using a combination of telephone and computer technology for interactive teleconferencing.

The campuses in the experiment are all public, do not have competitive enrollment processes, and generally cater to area residents. The students in the experiment come from higher socioeconomic strata than noncollege youth, but the students come from a diverse array of racial, economic, and social backgrounds. Some facts about the schools included in the experiment are provided in Table 1.

Table 1. Description of Participating Schools

School	State	Enrollment	Locale	Degree	DOB	Control	Peer	Admin
Ball State University	IN	20507	Mid-size city	Ph.D.	Y	8670	0	8673
Bloomsburg University	PA	8304	Fringe of mid-size city	M.A.	Y	4024	2008	2011
California State University - Long Beach	CA	33479	Large city	M.A.	N	16328	8166	8166
College of Charleston	SC	11607	Mid-size city	M.A.	Y	4807	2401	2404
Eastern Kentucky University	KY	16183	Fringe of mid-size city	M.A.	Y	7746	3883	3875
Emporia University	KS	6194	Large town	M.A.	Y	3055	1523	1524
Georgia College and State University	GA	5531	Small town	M.A.	N	2948	1475	1472
Illinois State University	IL	20757	Mid-size city	Ph.D.	Y	10024	5013	5012
Indiana - Purdue Fort Wayne	IN	11810	Mid-size city	M.A.	Y	876	0	878
Indiana University - Northwest	IN	5138	Mid-size city	M.A.	Y	3627	0	1209
Indiana University - South Bend	IN	7501	Mid-size city	M.A.	Y	3196	0	3183
Middle Tennessee State University	TN	22322	Mid-size city	Ph.D.	yob	11123	5558	5567
Millersville University	PA	7998	Fringe of mid-size city	M.A.	N	3513	1756	1754
Morehead State University	KY	9278	Small town	M.A.	N	4023	0	4020
Pennsylvania State University - Altoona	PA	3766	Mid-size city	B.A.	Y	2034	1018	1018
Salisbury University	MD	6942	Small town	M.A.	Y	3595	1794	1801
State University of New York - Cortland	NY	7350	Small town	M.A.	Y	736	377	371
State University of New York - Geneseo	NY	5573	Fringe of mid-size city	M.A.	Y	2118	1060	1058
University of Illinois - Springfield	IL	4396	Mid-size city	M.A.	Y	1786	893	893
University of Memphis	TN	20668	Large city	Ph.D.	Y	9934	4975	4976
University of Tennessee - Martin	TN	6098	Small town	M.A.	Y	3430	1715	1718
University of West Georgia	GA	9746	Small town	Ph.D.	Y	4872	2437	2437
University of Wisconsin - Oshkosh	WI	11532	Mid-size city	M.A.	yob	5516	2754	2754
University of Wisconsin - River Falls	WI	5950	Fringe of large city	M.A.	yob	3090	1541	1547
Washburn University	KS	7328	Small town	M.A.	Y	3660	1828	1838
Western Kentucky University	KY	18485	Large town	M.A.	Y	8242	4121	4116

Voter registration was ascertained by matching student directories to a nationwide voter file maintained by Catalist. Matches were made to both school and home addresses, but relied primarily on name and date of birth, which is a unique identifier in nearly all instances. As a result, the key dependent variable is measured accurately for both the treatment and control groups regardless of the county of residence.

The design of the e-mail experiment itself was straightforward. Students were randomly assigned to one of three conditions: (1) a control group receiving no e-mail, (2) a treatment group receiving three e-mails from an administrator such as the university president or dean of students, or (3) a treatment group receiving three e-mails from a student leader—usually the student body president. The e-mails were brief, explaining why registration is important and providing a link to the Rock the Vote online registration tool. The e-mail text and the schedule for sending the e-mails for most schools are provided in online Appendix A.⁷ Administrators were very eager to test the effectiveness of e-mail for boosting voter registration

because it is inexpensive to implement. As a result, the e-mail registration experiment involved twenty-six campuses and 259,130 students.

No problems were reported in applying the e-mail treatment. E-mails from administrators and peer leaders were sent as intended and cleared with information technology departments to avoid internal spam filters, so the participants received the e-mail messages. Most schools provided the preferred e-mail addresses of the students when known, but not all students may have provided the information to administrators. Students who rarely checked school e-mail account on record with the school (or did not forward e-mail) would not be aware of the treatment. This dynamic would bias the results toward zero. Any results statistically different from zero likely understate the magnitude of the effect.⁸ As a compliance check, we can check the number of registration forms downloaded from each school. The typical school saw 4 percent of the students send an e-mail click through to the registration Web site and download a registration form, so there is good reason to believe that the e-mail was read and acted upon by participants.

Table 2. Results from Email Registration Experiments

School	Administrator	Peer	Constant	Observations	Emails Sent
Ball State University	0.000 (0.008)		0.531 (0.005)	17343	3/0 (S)
Bloomsburg University	-0.015 (0.013)	-0.010 (0.013)	0.653 (0.008)	8043	1/2 (L)
California State University - Long Beach	0.003 (0.006)	-0.007 (0.006)	0.785 (0.003)	32660	3/3 (S)
College of Charleston	-0.024 (0.012)	-0.022 (0.012)	0.635 (0.007)	9612	3/2 (L,S)
Eastern Kentucky University	-0.005 (0.009)	-0.012 (0.009)	0.735 (0.005)	15504	2/2 (S)
Emporia University	-0.023 (0.014)	-0.025 (0.014)	0.742 (0.008)	6102	3/3 (S,U)*
Georgia College and State University	0.005 (0.015)	0.005 (0.015)	0.704 (0.008)	5895	3/3 (L,S)*
Illinois State University	0.015 (0.008)	-0.004 (0.008)	0.384 (0.005)	20049	3/3 (S)
Indiana - Purdue Fort Wayne	-0.024 (0.023)		0.389 (0.016)	1754	3/0 (L)*
Indiana University - Northwest	-0.005 (0.016)		0.635 (0.010)	4836	2/0 (S)
Indiana University - South Bend	0.000 (0.012)		0.637 (0.009)	6379	3/0 (S)
University of Memphis	-0.005 (0.008)	-0.004 (0.008)	0.626 (0.005)	19885	2/1 (S)
Millersville University	0.012 (0.014)	-0.005 (0.014)	0.628 (0.008)	7023	3/3 (L,S)
Morehead State University	-0.012 (0.010)		0.722 (0.007)	8043	1/0 (S)
Middle Tennessee State University	-0.001 (0.008)	0.002 (0.008)	0.642 (0.005)	22248	1/1 (U/S)*
Pennsylvania State University - Altoona	-0.007 (0.019)	0.006 (0.019)	0.509 (0.011)	4070	1/1 (L)*
Salisbury University	0.007 (0.013)	0.013 (0.013)	0.684 (0.008)	7190	1/2 (L, U)*
State University of New York - Cortland	-0.026 (0.031)	-0.021 (0.031)	0.647 (0.018)	1484	3/3 (S)
State University of New York - Geneseo	0.003 (0.015)	-0.016 (0.015)	0.789 (0.009)	4236	3/3 (S)*
University of Illinois - Springfield	-0.003 (0.020)	0.010 (0.020)	0.637 (0.011)	3572	2/2 (L)

(continued)

Table 2. (continued)

School	Administrator	Peer	Constant	Observations	Emails Sent
University of Tennessee - Martin	-0.015 (0.014)	-0.004 (0.014)	0.642 (0.008)	6863	1/1 (L)
University of West Georgia	0.009 (0.011)	-0.016 (0.011)	0.692 (0.007)	9746	2/2 (S)
University of Wisconsin - Oshkosh	0.001 (0.011)	0.005 (0.011)	0.630 (0.006)	11026	1/2 (U)*
University of Wisconsin - River Falls	0.020 (0.029)	0.053 (0.029)	0.549 (0.017)	1762	3/3 (S)
Washburn University	-0.014 (0.014)	-0.003 (0.014)	0.645 (0.008)	7326	2/2 (L,S)
Western Kentucky University	0.004 (0.009)	-0.007 (0.009)	0.701 (0.005)	16479	3/3 (S)
Pooled	-0.001 (0.002)	-0.005 (0.002)		259130	

Top number reports the OLS coefficient, bottom number in parentheses the associated standard error.

Constant reports registration rates among the control group.

The number of emails sent first report emails from administrators and then emails from student leaders.

S = short script, L = long script (see Appendix A), U = unique script (see Reviewer's Appendix).

* indicates schools that personalized the treatment emails (see Reviewer's Appendix B).

Pooled results calculated using random effects estimator.

Table 2 reports the results of the e-mail registration experiments. The first column reports the effect of each treatment and its associated standard error. The column named "Constant" reports the baseline registration rate among the control group. Before analyzing the experiments, it is interesting to consider the range of registration rates across schools. The average school had 59 percent of the control group registered. Most of the schools fell narrowly within those bounds (10th percentile = 51 percent and 90th percentile = 68 percent).⁹ According to the 2006 Current Population Survey (CPS), 78 percent of citizens older than the age of 18 in the United States were registered to vote, so these figures are below the national average. Only 62 percent of the eligible students in the 2006 CPS sample reported being registered to vote, so the schools involved in the experiment are typical of students broadly.

Unfortunately, it does not appear that the treatment e-mails raised rates of registration. Focusing on e-mails sent by university administrators, only one of the twenty-six schools approached a statistically significant increase in voter registration rates. This result is likely due to sampling variance since another school appears to have decreased voter registration by an equal amount and the other schools deviate very little from zero (i.e., by random chance, some experiments will yield positive and

negative results even if the true treatment effect is zero). Pooling all the results from the administrative e-mails together, the estimate is that receiving e-mails from an administrator lowers registration rates by 0.1 percentage point (se = 0.2).

The estimates are even less encouraging for the e-mails sent by peers. Two of the twenty schools appear to be success stories, but the results do not approach statistical significance. Pooling all the results from the peer e-mail treatment together, we estimate that receiving an e-mail from a student leader *decreases* registration rates by 0.5 percentage points (se = 0.2; two-tailed *p* value = .03). This estimate suggests that e-mail directing students to online voter registration tools not only fails to increase registration, but may serve to decrease registration rates.

While these results are precise by typical political science standards and the administrator and peer e-mails appear to have different effects, we cannot rule out the null hypothesis that they are equally effective. Coding the two types of e-mail as one monolithic treatment, these experiments suggest that sending students e-mails with links to online registration tools decreased registration rates by 0.3 percentage points (se = 1.8; *p* value = .09). When the results of the peer and administrator experiments are pooled with the results from registration

Table 3. Results from the Rock the Vote Registration Reminder Experiment

	Indiana	Pennsylvania	Pooled
Control	40.6% [355]	64.5% [1796]	
Treatment	44.7% [689]	68.4% [3532]	
Difference	4.1% (3.2)	3.9% (1.4)	4.0% (1.3)
p-value	0.20	<0.01	<0.01

Numbers reported are the percent of subjects registered to vote. Numbers in brackets report N. Numbers in parentheses report standard errors. Two-tailed p-values reported.

experiments conducted in 2002 and 2004 that are nearly identical to the student e-mail campaign (Nickerson 2007a, Table 1), the conclusion that e-mail directing young people to online tools lowers registration rates becomes unavoidable (intent-to-treat (itt) = -0.36 percentage point (pp); se = 0.14; two-tailed p value < .01). That is, for every 10,000 people sent e-mail linking to online registration tools, 36 people were prevented from registering who would have otherwise appeared on voter rolls. By this arithmetic, if every participant in the experiment had been sent an e-mail encouraging online registration, the schools studied would have 925 fewer registered voters on their campuses.¹⁰

A skeptic might suspect that changing addresses artificially caused this demobilization result (i.e., treatment participants used the link to re-register update address information that was outside the jurisdictions covered by the experiment).¹¹ This mechanism for generating the result is extremely unlikely for several reasons. First, a national voter file was used to measure voter registration, so all possible jurisdictions were included in the analysis. Second, 84 percent of the schools provided complete birth date information, so the primary matching criteria was name and birth date rather than address. No systematic difference in treatment effect was detected between the schools providing birth dates and those not. Third, the school directories used contained up-to-date home and school addresses, so even crude searches on address should provide reliable matches. Thus, movement in the treatment population is extremely unlikely to drive the finding.

An Experiment Providing a Reminder to Turn in the Form

In light of these results, Rock the Vote conducted two tests during the 2008 presidential primary designed to test a method to prevent this decrease in voter registration.¹²

People who used Rock the Vote's online registration tool during the presidential primaries in 2008 were asked during registration if they would like to receive text message "updates" from Rock the Vote. Roughly 20 percent of people registering online opted into the text message program. Rock the Vote closely monitored whether the individuals who filled out the form actually appeared on state voter files. Individuals who opted to receive text updates and had not already appeared on the official voter rolls were eligible to be participants in the experiment. Of all the people who fill out and download registration forms from Rock the Vote, only 76 percent are registered by Election Day,¹³ so completion of the process is a non-trivial problem.

Participants were randomly assigned to one of two groups: a treatment group that received a text message reminding the person to submit the form (66 percent of the sample) or a control group that received no subsequent communication (34 percent of the sample). Participants received no other communication from Rock the Vote prior to the primary election. The text treatment message was brief, did not reference the prior download, but did provide resources for the person to verify their registration status. For instance, treatment participants in Pennsylvania received the following message: "Are you registered to vote? If not, do it at rockthevote.com/PA or call 877-868-3772 to check status. PA's deadline is this Monday. Please fwd." The text sent in Indiana was identical, only changing the state-specific details. The experiment involved 6,372 participants and was conducted a week prior to the primary registration deadlines in Pennsylvania and Indiana. Whether or not the participants in the treatment and control groups registered to vote was verified again by consulting Catalist, which purchased the official list of registered voters after both states had updated the voter files.

Table 3 presents the results from the experiment in both states. The baseline rates of completing the forms varied between the states (41 percent in Indiana and 64 percent in Pennsylvania), but in both states the participants receiving the reminder to submit forms were 4 percentage points more likely to appear on the voter rolls.¹⁴ The results from this experiment strongly suggest that additional prodding to register to people who have already downloaded forms can increase compliance with intended behavior.

Discussion

The Internet is generally assumed to reduce transaction costs across industries, including political campaigning. However, access to online registration forms may simply exchange one cost (i.e., locating the form) for another

(i.e., remembering to mail the form). The experiments presented in this article suggest that not only are the costs shifted, but also the memory and follow-through costs are greater than the logistical savings.¹⁵ Participants receiving the e-mail directing them to online registration tools were 0.4 percentage points less likely to be registered to vote on Election Day. Unfortunately, the cost of follow-through is higher than the cost of registering via other avenues.

The good news is that follow-up from organizations can counteract this demobilization effect. A second study showed that sending reminders to people who downloaded registration forms increased registration rates by 4 percentage points. Whether the text message triggers social pressure, a desire to follow through with a plan (Nickerson and Rogers 2010), or simply acts as a reminder is difficult to know. However, the efficacy of continued contacts with would-be registered voters is clear.

It is instructive to think about how the multiple e-mails sent by administrators and peers in the first experiment differ from the text message reminders sent by Rock the Vote in the second experiment. The e-mails sent to all the treatment students were trying to drive traffic toward the online registration tools. If a student is uninterested in registering to vote or is already registered, receiving multiple e-mails advertising online tools will do little to change registration rates. In contrast, participants in the Rock the Vote experiment had already indicated an interest in registering to vote and had already downloaded the form. These participants probably intended to register but may not have gotten around to returning the form. Thus, chasing the registration forms downloaded is likely to be much more effective than multiple messages to a less receptive audience.¹⁶

These results should not be taken as proof that online registration tools decrease rates of voter registration (though they are certainly consistent with that hypothesis). The external validity of these findings is open to question. The participants on the cusp of a hypothetical registration threshold and pushed to the online tools by the e-mails were less likely to end up on the voter registration rolls. However, that does not mean that registration is suppressed for every person coming to Web sites with online registration. There must exist a set of people for whom the logistical costs of securing registration forms is high and the cost of remembering to mail in the forms is low, and these people would be helped by Web sites like Rock the Vote. Such people exist in the pool of participants sent the e-mail in the experiment, but they are outnumbered by people who fail to submit the forms. Since the relative ratio of these two types of people is unknown across populations, it is difficult to know whether these results hold for all people who come to registration Web sites on their own.

The decrease in rates of registration may be unique to online forms of communication. In-person outreach makes registration materials immediately available, but the volunteer or bureaucrat also can generally accept the completed forms immediately, thereby preventing registration drop-off through procrastination. Conversely, registration materials are not currently available at all over the phone, so phone calls and text messages inviting people to register to vote are unlikely to convey to citizens that voter registration can be accomplished at any time and be put off until a more convenient time. The increasing ubiquity of smart phone technology with Web browsers may change this dynamic, making phone communication equally susceptible to decreased registration through procrastination.

Procrastination caused by access to online resources is unlikely to be limited to voter registration activities. This decrease in participation caused by shifting from traditional to online transactions has been noted with regard to student evaluation forms (Dommeyer et al. 2004). The same dynamic could occur with regard to charitable and campaign donations. Recipients of door-to-door or direct mail solicitations may ignore those traditional means of contributing, knowing that contributions can be made online at any point. But if the prompts to contribute online do not manifest themselves, then the knowledge of an online option may prevent someone from contributing. Providing evidence of this dynamic is difficult without large and fully randomized experiments because reduced transaction costs lead many people to donate online, thereby confounding any procrastination effect.

Policy Implications

The findings reported in this article have immediate implications for groups conducting online voter registration. Rather than a nice bell or whistle if budget permits, follow-up is required to make online mobilization techniques effective. To the extent that organizations can mimic the hand-holding that occurs in government assistance offices and from volunteers in registration drives, the more effective such tactics will be.

These findings also have implications for two distinct policy areas for state governments. The first is that public agencies like the Department of Motor Vehicles should automate the registration process so that the client only needs to sign the form and hand it back (rather than return the form later). The 1993 National Voter Registration Act required that registration materials be made available (and accepted) when citizens apply for driver's licenses or public assistance. However, the law places no requirements on how registration forms are administered or accepted and government offices vary considerably in implementation. A standardized procedure where the

information already in the database (i.e., name, address, date of birth, etc.) is used to print a completed form that the citizen need only sign and return to the agent would reduce nearly all the physical and psychic transaction costs associated with registering to vote with very limited increase on the demands of the public agencies.

These experiments also suggest that states allowing online registration without required forms to be mailed in will increase levels of participation. Each task that must be accomplished in the registration process provides an additional juncture where an eligible citizen may fall short. Most states provide downloadable forms online that citizens must fill out, print, and mail in after locating an envelope and stamp. In contrast, in 2008 three states (Arizona, Delaware, and South Dakota) allowed online voter registration where citizens simply type information into the Secretary of State Web site, press "Submit," and are registered immediately. Such a process eases the transaction costs to the voter considerably. Thus, these three states provide a possible model to other states as to how to use the Internet to increase political participation. Similarly, replacing the national mail-in voter registration form with true national online voter registration would probably increase voter rates of voter registration.

Barriers to registering and participating in elections have declined dramatically over the past several decades. However, registering and voting are not yet costless activities, and some people may decline to participate because of these continued barriers. States are continuing to find new means of easing the voting process (e.g., Election Day registration, absentee voting, early voting), but efforts that require individuals to return materials on their own—like downloadable registration forms—may do more harm than good.

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Notes

1. States with same day registration (i.e., Maine, Wisconsin, and Minnesota) or no registration at all (i.e., North Dakota) have slightly different bureaucratic requirements.
2. The use of one-tailed hypothesis tests is strong evidence of this assumption (e.g., Arceneaux and Nickerson 2010; Green, Gerber, and Nickerson 2003; McNulty 2005), as is the concept of attributable effects (Hansen and Bowers 2009).
3. In settings where voters have multiple means of voting, such as early voting or absentee ballots, mobilization could also shift a voter from one set of costs to another.
4. Bennion (2009) reported similar results as Nickerson's (2007a) article, but lacked the sample size to definitively state that e-mail *demobilizes* voters.
5. The federal CAN-Spam Act of 2003 was intended to curtail the sending of unsolicited commercial mail. The law is silent regarding campaign e-mail, which is presumably protected speech under the First Amendment. An irony to the CAN-Spam law is that it does not require companies to receive permission before sending e-mail, prohibits states from passing more restrictive laws, and disallows individuals from suing companies that send spam e-mails.
6. Administration consent was not sufficient for institutional review board (IRB) approval. As a result, it was necessary to secure IRB approval on more than forty campuses—a nontrivial bureaucratic hurdle.
7. Some schools sent fewer than three e-mails, used only one type of sender, or personalized the e-mail messages. The number of e-mails sent by each type of sender is noted in Table 2, as are deviations from the sample text provided in Appendix A available at <http://prq.sagepub.com/supplemental/>.
8. Anecdotally, most students use their student e-mail address or have messages automatically forwarded to preferred accounts, so this effect is likely to be small.
9. The two samples with very low match rates could be due to a problem with the data provided by the school or the county. Since an identical matching algorithm was used for each school, the matching algorithm is unlikely to be the problem. Dropping these two schools does not materially affect the pooled point estimates.
10. If we assume that only the 4 percent who downloaded the form could be adversely affected by the e-mail, then it appears that the treatment decreased the registration rate by 9 percentage points among those downloading the form. This veracity of this assumption is impossible to verify. It is possible that people bypassed other means of registration knowing they could go online and access the same materials at any point.
11. The experiment cannot rule out the possibility that the messages actively dissuaded people from registering to vote. However, message tone and content generally have no effect on the effectiveness of outreach (cf. Arceneaux and Nickerson 2010; Nickerson 2007b; Bennion 2005).

12. One of the authors served as a research consultant for Rock the Vote and offered advice on the experiment, but the actual management of the data, randomization, and drafting of the text messages was conducted by Chris Kennedy of Rock the Vote. We thank Rock the Vote for providing the data and allowing us to publish it. Rock the Vote also provided the data to Avi Feller to look for heterogeneous responses to treatment in the data (Feller and Holmes 2009).
13. Whether the person was registered by mailing in the form or using another technique is unknown.
14. Despite concerning a very distinct behavior, this 4 percentage point registration effect is very similar to the 4.1 percentage point effect Dale and Strauss (2009) found for voter turnout.
15. These results support prior findings that voters are sensitive to increases in the cost of voting (e.g., McNulty, Dowling, and Ariotti 2009; Brady and McNulty 2004). Similarly, models of mobilization positing that mobilization helps voters to overcome costs also receive confirmation (e.g., Rosenstone and Hansen 1993; Arceneaux and Nickerson 2009).
16. It is also possible that text messages constitute a stronger treatment than e-mails. Future experiments can be conducted to explore this question.

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